Dairy Goats Require Lots of Care Just to Break Even

By Donald L. Ace

Dairy goats provide a source of refreshing and nourishing food that can be prepared in many ways: milk to drink, to make into an endless variety of cheeses and cultured products such as buttermilk and yogurt, to churn into butter and, with the addition of a few extra ingredients, to make ice cream and candy.

But a milking goat demands attention if she is to provide food for the table. Someone has to care for the animals twice a day, seven days a week, all year long. Even if the doe is dry she must be fed and watered. When she is giving birth it may mean a trip to the barn every hour through the night to see how she is progressing.

There is an occasional sick animal to care for, perhaps a frozen water pipe to thaw, manure to clean out. Then too there are educational meetings to attend to help you do a better job of management.

Income from a goat project is closely aligned with the producing ability of the doe, the feeding and care provided by the owner, and the local market for milk not needed for family use. For each doe producing over 3,000 pounds of milk per year there are hundreds that produce under 500 pounds.

If each milking doe averages 5 pounds of milk per day and it sells for 35¢ per pound you have $1.75 income. Budget 5 pounds of hay and 1-1/2 pounds of grain per adult per day at a cost of 40¢. Value of product over feed cost is $1.30.

That's not all profit. A buck eats 30¢ worth of feed. Figure 20¢ per day to feed each head of youngstock. Add the cost of upkeep on buildings, fencing, fertilizer for the pasture, plus feeding equipment, milking utensils, taxes, insurance and veterinary care plus an occasional animal lost to death. You will find expenses nearly equalling income.

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Do not view the small dairy goat herd as a profit maker. Regard it instead as a break-even source of nutritious food for the family that can be produced on otherwise idle land, and as a delightful mental diversion that all "hobbies" should provide.

There are byproducts of the hobby too. Chevon is good roasted or barbecued and the hide makes beautiful gloves and jackets.

Breeding Stock

Selecting breeding stock is not a simple task even for an experienced breeder. There are visual signs that forecast an animal's capabilities. Is she big enough for her age? Compare her to other animals the same age in the herd or in other herds. Are her eyes bright, the hair coat smooth and soft?

Do the ribs arch out and downward from the backbone, does she have greater depth in the rear rib area than in the chest area? The spring and depth of ribbing is evidence of body capacity that is so necessary for good forage intake.

View the udder when it is full of milk. It should have full, strong attachments at the body wall and not hang greatly below the hock area. Size of udder is not a reliable indicator of milk production.

View the udder when milked out. It should have a collapsed appearance. Feel it to see there are no hard lumps. It should be soft, thin-skinned and pliable.

Check milk production records. A youngster must be evaluated through its mother's production plus any records available on other daughters of her sire. Place a greater emphasis on records of the dam and sire than on the grandparents. Look for yearly production information rather than daily production. Weigh these records against a 1,500-pound yearly milk record produced over a 305-day period.

Dairy Herd Improvement records are better guides than daily milk weights. Shy away from animals that milked 10 pounds a day when fresh but were dry in less than 200 days. If the doe you are selecting is in milk, her records speak louder than her mothers and sisters.

The goal is to obtain an animal that can produce milk over a 10-month period. A year-round milk supply is difficult to obtain due to the seasonal breeding nature of the goat. It is impossible to obtain with a few does who stand dry an exceedingly long period each year.

Breed a doe after she weighs 80 pounds or at 10 to 12 months of age. Most goats show heat between August and March. Gestation takes 150 days. Twins, triplets are common.

Consider artificial insemination as a viable alternative to keeping a buck. If the herd numbers less than five milking does it will be the more economical alternative, and higher quality sires may be more easily obtained.

Housing Space

Cold loose housing where animals are free to move about on a dry, bedded pack offers the best quarters. Warm loose housing is discouraged because of problems with ventilation.

Provide 25 square feet of space per adult female housed. Buildings constructed of wood are preferred over cinder block. Masonry construction is difficult to insulate, walls are cold and often damp. Construct a 3-sided building with an open side facing away from the prevailing wind.

Keep a bedded pack at least 15 inches deep in the loafing area. Heat is produced inside the pack and animals rest comfortably in these quarters even though the outside temperature drops to zero. Natural air movement will ventilate and remove moisture.

Do not attempt to keep the inside temperature warmer than outside temperatures. Doing so will cause moisture to condense on walls and ceilings, creating a humid environment that goats do not tolerate. Most respiratory problems and stress-related diseases can be traced to wet conditions and inadequate ventilation.

Provide feeding and watering devices in another area of the barn away from the bedded pack. Much hay is wasted if fed on the bedded pack, and the chance for parasite problems increase. Watering devices always offer wet spots to spoil the bedded pack.

Locate 4 by 4 foot pens along one side to house 3 or 4 kids to a month of age. Older youngstock may be housed in 6 by 8 foot pens.

Buck housing must be separate and downwind from the milking animal quarters. A 6 by 8 foot shed with the open side facing south is adequate for each buck. Provide a minimum 10 by 10 foot exercise area.

Plans for goat facilities are available from the Agricultural Engineering Department, Pennsylvania State University, University Park, Pa. 16802. They include:

- *Building a Buck Barn*—Plan No. 728-392.
- *Building a Keyhole Goat Feeder*—Plan No. 728-394.
- *Building a Milking Stand*—Plan No. 728-100.
- *Loose Housing for 20 Goats*—Plan No. 728-102.

These plans are free upon request.

Two methods of fencing have been successful. Use either wooden or steel posts, 6 to 7 feet long, and set them 15 feet apart.

In one method, use 4-foot-high woven wire plus a single electric wire 12 inches above the top of the woven wire. The electrified top wire repels both dogs and goats that attempt to climb fences.

A second method is to use only electric fencing. Attach insulators to each post starting about 12 inches from the ground and every 6 inches thereafter to a height of 36 inches. String wires between insulators from post to post.

Feeding

Most goat owners find machinery costs too high to warrant growing forage. They purchase both hay and grain. An acre of land will provide ample room to house up to 10 milking animals plus the youngstock and offer some pasture area.

If forage is grown, assume a need for 2,000 pounds of hay per year for each mature animal. One acre of good producing land should provide forage to feed 4 milking does. When calculating forage needs allow 3 pounds of hay per 100 pounds of animal. Add an extra 5% for wastage.

Agronomic practices, crops and cropping systems vary greatly.

For assistance contact your county Extension agent who knows the soils, seed varieties, and cultural practices needed for optimum production.

Goats are ruminants and require fiber in their diet. They readily consume twigs and leafy portions of trees and bushes, plus many weeds. This is acceptable food only for animals not producing milk; the strong flavors of many such foods will carry through to the milk. In addition some of the fiber in browse is low in digestible energy and protein, and milk production will fall off on such a diet.

Feed milk animals good quality legume or grass hays. Grain fed to the herd must provide the extra energy and protein the animal needs but does not get from forage. Therefore, with good legume hay a 12% protein grain ration will be adequate. With average quality grass hay an 18% protein level is required.

Vegetable peelings, leaves of cabbage and lettuce, tops of carrots and turnips are readily eaten by the goat but are not good food for the producing doe. If top production is your goal, feed as constant a diet as possible. Sudden changes in types of food may upset digestion, reduce milk flow.

Fastidious Eaters

Goats have fastidious eating habits. They waste hay and grain if it gets soiled. Clean feed bunks and mangers daily.

Locate hay feeders away from the bedded area on a concrete pad that can be scraped clean each day. The keyhole feeder is best to prevent fecal contamination and wasting of hay.

Locate watering devices away from the bedded pack and on concrete. Goats will consume greater amounts of water in winter if the water is warmed to 60° F. Electrically heated float-type stock waterers are available.

Keep in mind several basic points for disease prevention and control:

- Maintain herd isolation. Raise herd replacements. If animals must be purchased, buy them as young as three days of age from locally known, disease-free sources. Insist on health charts for all animals.
- Visitors may bring diseases to your herd. Insist they disinfect their footwear before walking into the barn. Keep them out of feed alleys.
- Practice sanitation at home. Avoid carrying diseases from one animal to another by regularly cleaning and disinfecting maternity quarters and baby kid pens. Isolate sick animals.
- Control internal parasites by sanitary feeding and housing. Separate youngstock from older animals in barns and pastures. Practice pasture rotation and graze youngstock on new pasture whenever possible. No worm treatment program can be effective without sanitary measures that interfere with the parasite's life cycle.
- Draft-free, well-ventilated, well-lighted buildings are needed for goats.
- Pastures and exercise lots should be well drained. They also should be free from trash and sharp objects that could cause injury, especially to the teats and udder.
- Adequate nutrition is important. Drugs, tonics, fancy mineral mixtures and rumen stimulatory substances are not substitutes for good food.
- Use a veterinarian for diagnosis, treatment and advice on health problems. Too often veterinary aid is sought only for dying animals.
- Goats respond to gentle and patient handling. They will not stay healthy or produce well when abused.
- House the buck separately from the does. Provide plenty of opportunity for exercise. Nothing is more damaging to the herd sire than to keep him tied in a dark corner of the barn.

Tools, Equipment

On a bedded pack and very little exercise the toes grow long and the hoof shell uneven. Pruning shears and a farrier's knife are useful tools to keep the foot manicured.

Tattooing is necessary for identification, especially if goats are shown or registered. Cost of the equipment is about $30.

Remove horns as soon as the horn button can be located. Electric dehorners are the most humane. Cost, about $17.

Behind each horn button and toward the midline of the head is a mass of cells which produce an oily musk, a major source of odor in the buck goat. By clipping the hair these yellow cell masses may be seen lying just under the skin. Veterinarians can remove them surgically, or the owner can burn them out at the time of dehorning.

Castrating is necessary for males kept as pets or for slaughter. A veterinarian will do it, or the owner may use an elastrator (cost, $15), Burdizzo Emasculator (cost, $55), or a sharp jackknife. Disinfect all cutting instruments.

For disinfecting the navel, use a teacup partially filled with Iodine to dip both the cord and "belly-button" area.

Pails, Strainers

Stainless steel utensils are unequalled for durability and ease of cleaning, and if milk is sold commercially may be required. Milk pails cost $23, strainers cost $50, and they last a lifetime. Plastic may be used for home-oriented dairies.

Do not use iron, copper, brass, white metal or worn, plated utensils and spoons in handling milk. They cause milk to oxidize and taste like cardboard.

An electric hot water heater and a stainless steel double sink allow utensils to be washed and sanitized as required by many milk markets, and is recommended for all producers. A drying rack for storing clean equipment between milkings is essential to good sanitation.

Pasteurizing is important to protect the quality of milk and extend its shelf-life. The enzyme lipase reacts with butterfat in milk, causing it to turn rancid and develop a goaty flavor. Pasteurization temperature destroys the enzyme.

Two-gallon electric pasteurizing units may be purchased (cost, $95). A more economical approach is to heat milk in a double boiler to 165° F for 20 seconds. Cool immediately. If the temperature goes higher than 165° or is held for longer than 20 seconds a cooked flavor develops in the milk.

An ice water bath or cold running water cools more quickly than air temperature. Therefore cool milk before putting it in a refrigerator. Larger dairies using milk cans may purchase used water immersion type electric coolers from dairy equipment suppliers.

Some producers purchase used 200-gallon bulk milk tanks; this is recommended.

Goats are creatures of habit. Milk the does within minutes of the same time each morning and evening. Wash the udder and teats before milking. Use a disposable paper towel for each animal. Dry the udder thoroughly before milking.

Clipping the hair from the belly and udder in fall and winter will aid in producing a higher quality milk.

Cool the milk immediately to 40° F. Store it at 34° for best preservation of quality and flavor.

Do not expose milk to fluorescent lights or to sunlight.

Pygmy Goats

The Pygmy is a dwarf goat imported in the early 1950's. It is shorter and more compact than other dairy goats. Although friendly with people, the Pygmies are aggressive and should not be corralled with other breeds of goats and sheep.

There is evidence they produce well if fed good forage and grain plus fresh water. Some does give as much as 5 pounds of milk testing 8% butterfat per day. They may produce two litters of kids a year, so the milk-producing period is short compared with other dairy goats. Bucks breed the year around.

The wooden floor and milking stand are okay for home use, but not for commercial milk production. The stainless steel milking pail helps produce clean milk.

George Robinson

Pygmy prices are on a par with other breeds excepting wethered (castrated) buck kids. They are sold as pets for $50 to $75.

Fencing for Pygmies must be sturdier and higher than for other breeds. In Africa, the Cameroon goat (a type of Pygmy) is called the "tree goat" because it walks up low tree branches to browse. Pygmies found in America are as agile as that too. *(Courtesy Alice Hall, San Bernardino, Calif.)*

Angora Goats

Angoras are kept for the production of a specialty fiber called mohair. Meat production and brush control is second in importance. Never are they raised for milk production.

They are concentrated in areas where the climate is mild and dry. About 90% of this breed in the U.S. are found in the Edwards Plateau of Texas.

Angoras are primarily browsing animals adapted to high, rough, brush land but adapt well to hay, pasture and grain.

They are seasonal breeders with the bulk of kidding extending from late February to mid-April. Multiple births occur in only 10% to 15% of the kiddings.

The fleece of kids is packaged separately and sold at premium prices. Clipping begins at 6 months of age and is repeated every 6 months thereafter. Adult does will shear about 12 pounds of mohair per year; bucks may produce more than twice that amount. Wethers tend to produce a heavier fleece than does.

Fleece production begins to decline at 7 or 8 years of age. Animals are then sold for slaughter. *(Adapted from information provided by American Angora Goat Breeders Association, Rocksprings, Texas.)*

Further Reading:

Ace, Donald L., *Dairy Goats—Correspondence Course 105,* 307 Agricultural Administration Bldg., Penn State University, University Park, Pa. 16802. $5.

Barker, C. A. V., *Dairy Goat Cook Book,* Dairy Goat Journal, P. O. Box 1908, Scottsdale, Ariz. 85252. $3.

Countryside Magazine, Route 1, Dept. D9, Waterloo, Wis. 53494. $9 per year.